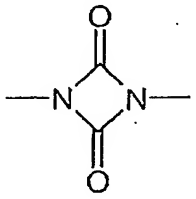
Claims:

1. Amino- and/or ammoniopolysiloxane compounds and salts thereof, that they have at least one functional group selected from groups of the formulae (I) and (II):

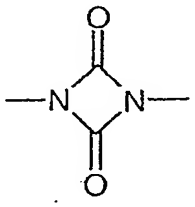


(I),

$$-Si(OR)_{3-a}(R')_a \qquad (II)$$

in which a is an integer from 0 to 2 and R and R' may be the same or different from one another and each represent an organic radical.

2. Compound according to Claim 1, characterized in that it has at least one functional group of the formula (I):



(I)

3. Compound according to Claim 1, characterized in that it has at least one functional group of the formula (II):

$$-Si(OR)_{3-a}(R')_a \qquad (II)$$

in which R and a are each as defined above.

4. Compound according to one of Claims 1 to 3, characterized in that it has at least three units selected from the units Q and V,
in which Q is at least one di-, tri- and/or tetravalent amino and/or ammonium group which is not bonded to V via a carbonyl carbon atom, and
V is at least one organic unit which is bonded to the Q units via carbon,
with the proviso that at least one of the units V contains a polyorganosiloxane radical.

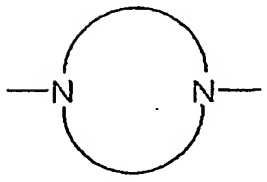
5. Compound according to Claim 4, which has at least two units V which contain a polyorganosiloxane radical.

6. Compound according to Claim 4 or 5, characterized in that it has at least two Q units.

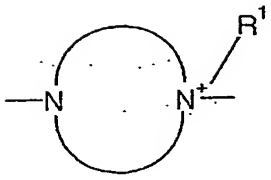
7. Compound according to one of Claims 4 to 6, characterized in that the unit Q is selected from the group which consists of:

$-NR^1-$,
$-N^+R^1{}_2$,

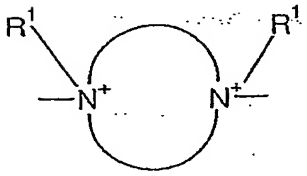
a saturated or unsaturated, diamino-functional heterocycle which is optionally substituted by further substituents and is of the formulae:



,

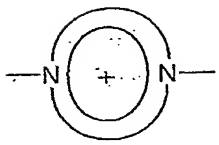


and

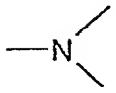


, and also

an aromatic, optionally substituted, diamino-functional heterocycle of the formula:

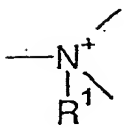


a trivalent radical of the formula:



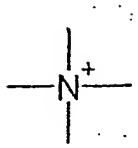
,

a trivalent radical of the formula:



, or

a tetravalent radical of the formula



in which R^1 is in each case hydrogen or a monovalent organic radical, where Q is not bonded to a carbonyl carbon atom.

8. Compound according to one of Claims 1 to 7, characterized in that it has at least one quaternary ammonium group.

9. Compound according to one of Claims 1 to 8, characterized in that it has at least two quaternary ammonium groups.

10. Compound according to one of Claims 4 to 9, characterized in that the unit V is selected from at least one polyvalent, straight-chain, cyclic or branched, saturated, unsaturated or aromatic hydrocarbon radical which has up to 1000 carbon atoms (where the carbon atoms of the optionally present polyorganosiloxane radical are not counted), may optionally contain one or more groups selected from

-O-, -C(O)-, -C(S)-,

$-NR^2-$ in which R^2 is hydrogen, a monovalent, straight-chain, cyclic or branched, saturated, unsaturated or aromatic hydrocarbon radical which has up to 300 carbon atoms, may contain one or more groups selected from -O-, -NH-, -C(O)- and -C(S)-, and may optionally be substituted by one or more substituents selected from the group which consists of a hydroxyl group, an optionally substituted heterocyclic group which preferably contains one or more nitrogen atoms, polyether radicals, polyetherester radicals, polyorganosiloxanyl radicals and

$-Si(OR)_{3-a}(R')_a$,

in which a, R and R' are each as defined above, where, when a plurality of $-NR^2-$ groups are present, they may be the same or different, and with the proviso that the $-NR^2-$ group bonds to a carbonyl and/or thiocarbonyl carbon atom, $-\overset{|}{N}-$ and polyorganosiloxane radicals, and may optionally be substituted by one or more hydroxyl groups and/or groups of the formula (II)

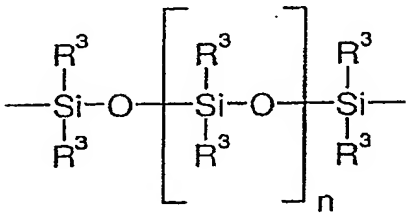
$-Si(OR)_{3-a}(R')_a$

in which a, R and R' are each as defined above,

and with the proviso that at least one V radical contains at least one polyorganosiloxane radical,

and in which the polyvalent Q and V groups bonded to one another are saturated terminally by monovalent organic radicals.

11. Compound according to Claim 10, characterized in that that the polyorganosiloxane radical is a divalent group of the formula (III)



(III)

in which R^3 may be the same or different and is selected from the group which consists of C_1 to C_{22}-alkyl, fluoro(C_3-C_{10})alkyl, C_6-C_{10}-aryl and $-W-Si(OR)_{3-a}(R')_a$ in which R, R' and a are each as defined above and W is -O- or a divalent, straight-chain, cyclic or branched, saturated, unsaturated or aromatic hydrocarbon radical which has up to 100 carbon atoms and may contain one or more -C(O)-, -O-, -NH-, -S- groups, and may optionally be substituted by hydroxyl, and n = from 0 to 1000.

12. Compound according to Claim 10 or 11, which has at least two V groups which contain a polyorganosiloxane radical.

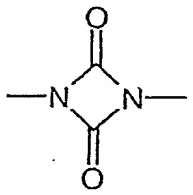
13. Compound according to one of Claims 4 to 12, characterized in that it contains at least one unit of the formula (IV):

-[Q-V]- (IV)

in which Q and V are each as defined above, and the Q and V groups are saturated terminally by monovalent organic groups.

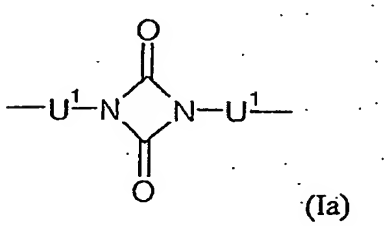
14. Compound according to Claim 13, characterized in that it has at least two repeat units of the formula (IV).

15. Compound according to one of Claims 4 to 14, characterized in that at least one of the V groups has a functional group of the formula (I)



(I)

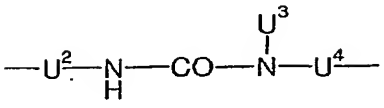
16. Compound according to one of Claims 1 to 15, characterized in that it contains at least one functional group (I) of the formula (Ia)



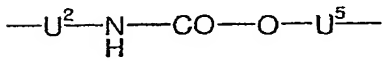
(Ia)

in which

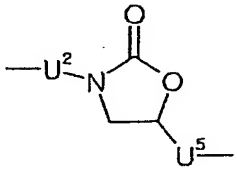
U^1 is selected from the group which consists of divalent radicals of the formulae:



(Ib),



(Ic) and



(Id),

where

U^2 is bonded to the nitrogen atom of the functional group of the formula (I), and

U^2 is a divalent, straight-chain, cyclic or branched, saturated, unsaturated or aromatic hydrocarbon radical which has up to 100 carbon atoms and may contain one or more -O- groups,

U^3 is hydrogen or a monovalent, straight-chain, cyclic or branched, saturated, unsaturated or aromatic hydrocarbon radical which has up to 100 carbon atoms and may contain one or more -O- groups and be substituted by OH, consist of $-W-Si(OR)_{3-a}(R')_a$ in which R, R' are each as defined above and a = from 0 to 2 and W is a divalent, straight-chain, cyclic or branched, saturated, unsaturated or aromatic hydrocarbon radical which has up to 100 carbon

atoms and may contain one or more -C(O)-, -O-, -NH-, -S- groups, and may optionally be substituted by hydroxyl groups,

U^4 and U^5 are each divalent straight-chain, cyclic or branched, saturated, unsaturated or aromatic hydrocarbon radicals which have up to 1000 carbon atoms and may optionally contain one or more groups selected from -O-, -C(O)-, , -NR^2- in which R^2 is as defined above, and which may optionally be substituted by one or more hydroxyl groups, with the proviso that the and -NR^2- groups are bonded to a carbonyl carbon atom.

17. Compound according to one of Claims 1 to 16, characterized in that the group of the formula (II)

$$-Si(OR)_{3-a}(R')_a \qquad (II)$$

in which a, R and R' are each as defined above is bonded to a carbon atom.

18. Compound according to one of Claims 4 to 17, characterized in that at least one of the V and/or Q groups has a group of the formula (II)

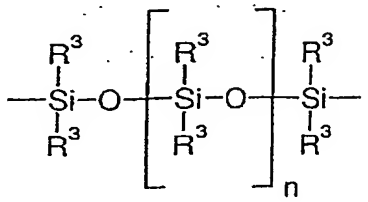
$$-Si(OR)_{3-a}(R)_a \qquad (II)$$

in which a, R and R' are each as defined above.

19. Compound according to one of Claims 7 to 18, characterized in that it has a unit Q which has an R^1 radical which has a group of the formula (II)

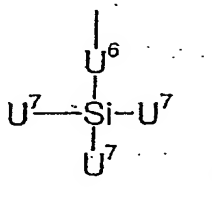
$$-Si(OR)_{3-a}(R')_a \qquad (II)$$

20. Compound according to one of Claims 4 to 18, characterized in that it has at least one unit V which contains a group of the formula (III)



(III)

21. Compound according to one of Claims 7 to 20, characterized in that it has at least one R^1 radical of the formula (VIIIa)



(VIIIa),

in which

U^6 is a divalent straight-chain, cyclic or branched, saturated, unsaturated or aromatic hydrocarbon radical which has up to 100 carbon atoms and may optionally contain one or more groups selected from -O-, -C(O)-, -NH- and -NU^8-, or may optionally be substituted by one or more hydroxyl groups, in which U^8 is hydrogen or a monovalent, straight-chain, cyclic or branched, saturated, unsaturated or aromatic hydrocarbon radical which has up to 100 carbon atoms and may contain one or more -O- groups and be substituted by OH, with the proviso that -NH- and -NU^8- is bonded to a carbonyl and/or thiocarbonyl carbon atom, and

U^7 is a monovalent, straight-chain, cyclic or branched, saturated, unsaturated or aromatic hydrocarbon radical which has up to 20 carbon atoms and may contain one or more -O- groups and be substituted by OH,

with the proviso that the U^7 radicals may be the same or different and at least one U^7 radical per silicon atom is bonded to the silicon atom via -O-.

22. Process for preparing the amino- and/or ammoniopolysiloxane compound according to one of Claims 1 to 21, in which

a) at least one amine compound selected from a diamine compound and/or a primary or secondary monoamine compound is reacted with a multifunctional, preferably difunctional, organic compound capable of reaction with the amino functions of the amine compound, the molar ratio of the amino functions of the amine compound mentioned to the functional groups of the multifunctional, preferably difunctional, organic compound mentioned being from about 0.5 to 2, or

b) at least two moles of an amine compound (1) selected from a diamine compound (1) and/or a primary or secondary monoamine compound (1) is reacted with one mole of a multifunctional, preferably difunctional, organic compound (1) capable of reaction with the amino functions of the amine compound to form a diamine compound (2) (monomer), and the diamine compound (2) (monomer) is subsequently reacted with at least one further multifunctional, preferably difunctional, organic compound (2) capable of reaction with the amino functions of the diamine compound (2), optionally in the presence of further amine compounds (2), the stoichiometry of the amino functions and the functional groups capable of reaction with amino functions in the last stage of the reaction being about 1:1, and the organic compounds (1) and (2) being the same or different from one another, or

c) an amine compound selected from a diamine compound (1) and/or a primary or secondary monoamine compound is reacted with a multifunctional, preferably difunctional, organic compound (1) capable of reaction with the amino functions of the amine compounds to form a diamine compound (2) (amino-terminated oligomer), the molar ratio of the amino functions of the amine compound mentioned to the functional groups of the multifunctional, preferably difunctional, organic compound (1) mentioned being from about 1 to 2,

then the resulting diamine compound (2) (amino-terminated oligomer) is reacted with at least one multifunctional, preferably difunctional, organic compound (2) capable of reaction with the amino functions of the diamine compounds, the stoichiometry of the amino functions and of the functional groups capable of reaction with amino functions in the last stage of the reaction being about 1:1, and the organic compounds (1) and (2) being the same or different, or

d) an amine compound (1) selected from a diamine compound and/or a primary or secondary monoamine compound is reacted with a multifunctional, preferably difunctional, organic compound (1) capable of reaction with the amino functions of the amine compound to form a multifunctional, preferably difunctional, organic compound (2) (difunctional oligomer) capable of reaction with amino functions, the molar ratio of the amino functions of the amine compound mentioned to the functional groups of the multifunctional, preferably difunctional, organic compound (1) mentioned being from about 0.5 to 1,
then the organic compound (2) (difunctional oligomer) is reacted with at least one amine compound (2) selected from a diamine compound and/or a primary or secondary monoamine compound, optionally in the presence of one or more multifunctional, preferably difunctional, organic compounds (3) capable of reaction with amino functions, the stoichiometry of the amino functions and the functional groups capable of reaction with amino functions in the last stage of the reaction being about 1:1,

in the course of which, if appropriate, monofunctional, preferably tertiary, monoamines or suitable monoamines incapable of chain propagation and/or monofunctional compounds capable of reaction with amino functions may be added as chain terminators, and in the course of which any amino functions present in the resulting products may subsequently be protonated or quaternized.

23. Process according to Claim 22, in which the introduction of the functional group of the formula (I) comprises:

a) the reaction of diisocyanates comprising the functional group of the formula (I) with at least one mole of a diamine (1) to form a monomeric, oligomeric or polymeric diamine (2) which comprises the functional group of the formula (I), or

b) the reaction of one mole of a diisocyanate containing the functional group of the formula (I) with at least one mole of a multifunctional, preferably difunctional, organic compound (1) capable of reaction with the isocyanate groups and amino groups to form a multifunctional, preferably difunctional, monomeric, oligomeric or polymeric organic compound (2) which is capable of reaction with amino groups and contains the group of the formula (I), or

c) the reaction of one mole of a diisocyanate containing the functional group of the formula (I) with at least one mole of a multifunctional, preferably difunctional, organic compound (1) capable of reaction with the isocyanate groups to form a multifunctional, preferably difunctional, organic monomeric, oligomeric or polymeric compound (2) containing the functional group of the formula (I) and terminal groups capable of reaction with isocyanate groups, conversion of the organic compound (2) mentioned to a multifunctional, preferably difunctional, monomeric, oligomeric or polymeric organic compound (3) capable of reaction with amino groups

and the use of the resulting compounds containing the group of the formula (I) in the processes a) to d) of claim 22.

24. Process according to Claim 22 or 23, in which the introduction of the functional group of the formula (II) comprises the reaction of an amine compound selected from a diamine compound and/or a primary, secondary or tertiary monoamine compound containing the unit of the formula (II), and/or

the reaction of a multifunctional, preferably difunctional, organic compound containing the unit of the formula (II).

25. Process according to one of Claims 22 to 24, in which the functional groups of the multifunctional, preferably difunctional, compounds capable of reaction with amino functions are selected from the group which consists of epoxy groups and haloalkyl groups.

26. Process for preparing formulations comprising at least one compound according to one of Claims 1 to 21.

27. Formulation according to Claim 26, comprising at least one solvent selected from water and organic solvents.

28. Formulation according to Claim 26 or 27 in the form of an aqueous emulsion.

29. Formulation according to Claim 28 in the form of an aqueous microemulsion.

30. Laundry detergent formulation comprising at least one compound according to one of Claims 1 to 21.

31. Laundry detergent formulation according to Claim 30, comprising nonionogenic and/or anionic surfactants.

32. Cosmetic formulation comprising at least one compound according to one of Claims 1 to 21.

33. Use of the compounds or formulations according to one of Claims 1 to 21 for preparing formulations for finishing or treating natural or synthetic fibers or fiberlike substrates, or for cosmetic application, or according to Claims 27 to 32 for preparing subsequent formulations for treating natural or synthetic fibers or fiberlike substrates and in cosmetic applications.

34. Process for treating and/or finishing natural or synthetic fibers or fiberlike substrates, that comprises the wetting treatment of natural or synthetic fibers or fiberlike substrates and, if appropriate, activation with at least one of the compounds according to one of Claims 1 to 21 and formulations according to Claims 27 to 32.

35. Natural or synthetic fiber or fiberlike substrate treated with at least one of the compounds according to one of Claims 1 to 21 or 27 to 34 and products produced therefrom.

36. Use of the compounds according to one of Claims 1 to 21 and formulations according to Claim 27-32 in cosmetic formulations, in laundry detergents or for surface treatment of substrates.